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Rural Industries Research and Development Corporation

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Joint Farm Health & Safety Program

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Australian Government

Rural Industries Research and Development Corporation

RIRDC Completed Projects in 2005-2006 and Research in Progress as at June 2006

Farm Health and Safety September 2006

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RIRDC Completed Projects in 2005-2006 and Research in Progress as at June 2006 – Farm Health and Safety

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RIRDC Human Capital, Communications & Information Systems Research Manager

Ms Jane Fisher RIRDC Level 2 15 National Circuit BARTON ACT 2600 PO Box 4776 KINGSTON ACT 2604

 Phone:
 02 6271 6498

 Fax:
 02 6272 5877

 Email:
 jane.fisher@rirdc.gov.au

RIRDC Publications Manager

Rural Industries Research and Development Corporation Level 2 15 National Circuit BARTON ACT 2600 PO Box 4776 KINGSTON ACT 2604

 Phone:
 02 6272 3186

 Fax:
 02 6272 5877

 Email:
 rirdc@rirdc.gov.au

 Website:
 http://www.rirdc.gov.au

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Foreword

This year RIRDC has produced *Research in Progress, June 2006,* which contains short summaries of continuing projects as well as those that were completed during 2005-2006 for all of the Corporation's program areas.

The complete report on all the programs is only available in electronic format on our website at http://www.rirdc.gov.au

The following report is a hardcopy extract covering Sub-program 4.3, Human Capital, Communications & Information Systems and contains entries from continuing and completed Farm Health and Safety research projects funded by RIRDC. This program aims to enhance farm health and safety and facilitate innovation in rural industries and communities.

This report is the newest addition to our extensive catalogue of over 1500 research reports, videos and CD-Roms of projects supported by RIRDC. Please contact us for the latest publications catalogue or view it on our website:

- downloads at www.rirdc.gov.au/reports/Index.htm
- purchases at www.rirdc.gov.au/eshop

Peter O'Brien Managing Director Rural Industries Research and Development Corporation

Human Capital, Communications & Information Systems COMPLETED PROJECTS

PROJE	PROJECT TITLE	RESEARCHER	PHONE	ORGANISATION	PAG
CT No					E No
	Safety for broadacre	Phil			
	agriculture: Guide to	O'Callaghan		O'Callaghan Rural	
ORM-	occupational health and safety	and Frank	(03) 5441	Management and	
1A	(OH&S) on broadacre farms	Delahunty	6176	DIRT Management	1
		Kelly Johnstone,		Queensland	
		Prof Michael	(02) 4348	University of	
QUT-5A	Organophosphate exposure	Capra et al.	4021	Technolog	2
		A/Prof Lyn		Australian Centre	
US-	National farm injury data	Fragar and	(02) 6752	for Agricultural	
121A	project-continuation	Kirrily Pollock	8215	Health and Safety	4
	Testing and delivering media Dr Lia Bryant				
USA-	communication strategies for	and Ms	(08) 8302	University of South	
14A	child farm safety	Elizabeth Hoon	4363	Australia	7
WDH-	Cost analysis of sustainable		(03) 5551	Western District	
ЗA	farm families program	Susan Brumby	8460	Health Service	9

Farm Health and Safety

Human Capital, Communications & Information Systems RESEARCH IN PROGRESS 2005-2006

Farm Health and Safety

PROJE CT No	PROJECT TITLE	RESEARCHER	PHONE	ORGANISATION	PAG E No
UMO-	In-depth investigation of farm		(03) 9905		
32A	machinery injury	Dr Lesley Day	1811	Monash University	10
US-		A/Prof Lvn	(02) 6752	Australian Centre for Agricultural Health	
141A	Farm safety studies	Fragar	8210	and Safety	11
WDH-	Sustainable farm families: the human resource in the triple	Ms Sue	(03) 5551	Western District	
1A	bottom line	Brumby	8460	Health Service	12
	Sustainable farming families— building and extending our	Ms Sue	(03) 5551	Western District	10
WDH-2J	future	Brumby	8460	Health Service	13

COMPLETED PROJECTS

Farm Health and Safety

Project Title	Safety for broadacre agriculture: Guide to occupational health and safety (OHS) on broadacre farms
RIRDC Project No.: Researcher: Organisation: Phone: Fax: Email:	ORM-1A Phil O'Callaghan and Frank Delahunty O'Callaghan Rural Management and DIRT Management 03 5441 6176 03 5444 4299 admin@orm.com.au
Objectives	 Publish a ute guide to OH&S for the agricultural industry as a user-focused tool for communication of OH&S guidelines and best practice relating to common Agricultural operations
Background	Fragar and Franklin (1999) identified the industry view that 'the protection and enhancement of health and safety and the wellbeing of the human resource is a critical factor for ensuring the efficient future for agriculture in Australia'. The RIRDC report, <i>Farm Machinery Regulatory Review</i> (Gunningham, 2003), recognised that the limiting factors affecting agricultural businesses educating themselves on safety issues were available time and opportunity.
	The development of this Guide has resulted from the identification of the need for a user-friendly, portable reference that Agricultural workers can use in their day to day operations. This is in accordance with the objectives of the RIRDC R&D Plan for Farm Health & Safety 2002–06 to increase the adoption of safe systems of work on farm and to update and further develop training material and delivery modes more likely to be taken up by farmers. This tool is intended to be used in conjunction with the process of risk assessment and the development and implementation of action plans by agricultural businesses to potentially reduce incidents of workplace injury.
Research	A Reference Group was established and consisted of Farmer Representatives, OH&S Professionals including Farmsafe Australia representatives, Agricultural Consultants and Agricultural Business Managers to assist in refining the concept of Ute Guide and to ensure that Farmsafe recognised standards are met. Desk top research was undertaken to establish the current status of OH&S legislative requirements and industry best practice for broadacre agricultural operations. The guide was refined and edited through a series of reviews with the project team and finally the Reference Group.
Outcomes	A reference tool for people working in agriculture to conduct common tasks to best practice standards and in accordance with OH&S legislation that can be integrated with Agricultural Business' OH&S Policy and Training.
Implications	The benefits of this project will be economic and social. There is also a potential for reduced environmental impact. Key objectives

	and benefits include:
	 Providing people in the agricultural workplace with a clear, accessible reference on how to carry out operations in accordance with OH&S guidelines and industry best practice
	 Lessening the risk of injury to people in the agricultural workplace
	 Reducing incidents with environmental impacts such as chemical spills through safe management of agricultural chemicals.
	 Providing a simple tool to support Job Safety Analysis (JSA) and Risk Assessments in the workplace.
	 Promoting best practice health and safety performance to agricultural businesses and foster a culture of 'beyond compliance'.
Publications	Guide to occupational health and safety (OHS) on broadacre farms.

Project Title:	Organophosphate exposure in agricultural workers: Human exposure and risk assessment
RIRDC Project No.: Researcher: Organisation:	QUT-5A Kelly Johnstone, Prof Michael Capra, Prof Beth Newman, Dr John Cameron, Dr Keith Adam Queensland University of Technology, School of Public Health Victoria Park Road Kelvin Grove QLD 4059
Phone: Fax: Email: Objectives	 (02) 4348 4021 (02) 4348 4013 k.johnstone@aussafe.com.au; Mike.Capra@newcastle.edu.au The broad aims of this study are to characterise OP pesticide exposure and to assess the feasibility of using urine metabolite testing as a risk assessment tool for agricultural and related industry workers exposed to OP pesticides. The specific objectives of the study are: to assess participant fruit and vegetable farmers' knowledge and use of formal risk assessment techniques to investigate the OP exposure levels of four groups—fruit and vegetable farmers; agricultural pilots and their mixer/loaders; formulator plant staff; and controls—using urine DAP metabolite analysis and, where possible, blood cholinesterase testing to investigate sample collection requirements (eg. sample collection frequency, number and timing in relation to exposure) for urine DAP metabolite monitoring to investigate correlations between urine DAP metabolite levels and blood cholinesterase activities where blood sampling is possible.
Background	Organophosphate (OP) pesticides, as a group, are the most widely used insecticides in Australia. Approximately 5 000 tonnes of active ingredient are used annually. Various sectors of the Australian agricultural industry work with OP pesticides. Exposure to OPs can result in both acute and chronic health effects. Pesticide exposure related illness has both economic and social effects for the ill farmer's, their families and the rural community they support. It is important that agricultural workers be able to assess and manage their exposure to OP pesticides. WorkCover NSW Laboratories offers a urine metabolite test for OP pesticide exposure. However, the test has not previously been used in any field-based research with the agricultural industry in Australia. The test has potential for use by farmers in the risk assessment process and is more sensitive than the traditional health surveillance tool—blood cholinesterase monitoring.
Research	A cross-sectional study design was used to assess exposure to OP pesticides and related issues among four groups: fruit and vegetable farmers, pilots and mixer/loaders, formulator plant staff and a control group. The study involved 50 farmers in an interviewer-administered questionnaire and 32 in urine sample provision. Eighteen pilots and mixer/loaders provided urine samples and nine exposed formulation plant staff provided urine

and blood samples. Community controls from Toowoomba Rotary clubs provided 44 urine samples and 11 non-exposed formulation plant staff provided blood and urine samples; all groups also provided responses to a self-administered questionnaire.

Outcomes Participant farmers were drawn from the main cropping areas in south-east Queensland—Laidley/Lowood, Gatton, and Stanthorpe. The farmer group was characterised by small owner-operators who often had primary responsibility for OP pesticide mixing and application. Farmers had good general knowledge of pesticiderelated safety practices; however, despite this knowledge, use of personal protective equipment (PPE) was low. More than half of the farmers did not often wear a mask/respirator (56%), gloves (54%) or overalls (65%). Material Safety Data Sheets were never or rarely read and 88.2% of farmers never or rarely read OP pesticide labels before application. There were also problems with chemical suppliers providing farmers with MSDSs. The majority of farmers (90.2%) reported that they had never had any health surveillance performed and three-quarters had never read about or been shown how to perform a formal risk assessment.

The study found that workers with prolonged exposure to OP pesticides over several hours and consecutive days had the greatest potential for exposure. Fruit and vegetable farmers whose typical pattern of use was short (less than an hour), infrequent and involved boom-type application methods had limited potential exposures to OP pesticides. Urine metabolite levels recorded for the farmers group were generally low. Formulators exposed to OP pesticides were found to have the highest urine OP metabolite levels, followed by pilots and mixer/loaders. The results of this study indicate that dietary and other environmental exposures to the parent compound, as well as to OP metabolites themselves, may contribute substantially to urine metabolite levels.

Levels found in this study are similar to those reported in international research. The observed metabolite levels were not associated with a drop in blood cholinesterase activity among the formulation plant workers. Urine metabolite levels recorded for all groups are unlikely to be associated with acute health effects. In contrast, there is insufficient scientific knowledge to know whether levels recorded in this study and elsewhere may be associated with long-term, chronic health effects. Further research is required in this area.

Implications Based on the findings of this research project a guide will be developed to assist farmers in the completion of a risk assessment of their, and/or their employee's exposure to organophosphate pesticides. The guide will incorporate the use of the urine OP metabolite test as part of the risk assessment. The guide would also be of assistance in completing risk assessments for other chemical exposures on the farm.

Publications

Project Title:	National farm injury data project—continuation
RIRDC Project No.: Researcher: Organisation: Phone: Fax: Email: Objectives	 US-121A A/Prof Lyn Fragar and Kirrily Pollock Australian Centre for Agricultural Health and Safety (02) 6752 8215 (02) 6752 6639 nfidc@health.usyd.edu.au To continue to improve the ability of Australian agriculture to manage risk of injury through the provision of accurate, timely, concise and relevant data about injury occurring on farms or due
Background	to agricultural work. The early work of the National Farm Injury Data Centre was instrumental in drawing the attention of farmers' organisations, research organisations and government to the specific safety problems of the industry. The Data Centre has been undertaking farm injury surveillance for the past nine years in response to their information needs. Farm injury surveillance has been seen as critical in the instigation of prevention programs by the network of organisations under the Farmsafe Australia umbrella. Data have been used to define the nature and scale of the farm injury problem in Australia, in States and in specific industries, to identify priority hazards of high risk that need specific intervention and more recently to define and report on farm safety benchmarks.
Research	As more safety and injury prevention activity has been set in place, so have the information needs of the agriculture industries become more sophisticated. At the commencement of this project it was recognised that reports and profiles needed to be presented in ways that were more meaningful to the users of the data—farmers, policy makers, educators and others. It was further recognised that improvements were needed in relation to the timeliness of access to farm deaths and serious injury data—a key challenge using the previous data sources. This has been undertaken by accessing the National Coroners Information System, recognising that this system is in its infancy, with many data access problems yet to be resolved, and by accessing a press monitoring service to provide timely information that is already available to the public.
	A more recent move has been the recognition of the need for safety benchmarking systems to be available in the context of farm business management, and this project has set in place systems that will contribute to that endeavour.
Outcomes	The Data Centre has worked to establish and maintain the National Farm Injury Data Collection, and to ensure that people are recruited and skills developed so as to ensure that requests for information and reports can be filled in a timely and careful manner.
	maintenance of the Data Collection, has supplied data, comments and advice to a range of organisations and individuals. These have included each states' OHS authority, Worksafe Australia, the media,

	Federal, state and territory politicians, research organizations, including Monash University Accident Research Centre, The University of New England Rural Development Centre, ABARE, university and school students, farmers and community groups, including the Country Women's Association, state and national farmer groups, rural rehabilitation service providers, rural educators and medical educators.
Implications	Surveillance of agricultural injuries is a precursor to an effective program to reduce death and disability. Data gathering does not in itself serve to reduce fatalities or morbidity. Data gathering does allow us to use our prevention dollar more wisely, to evaluate our effectiveness and it alerts us to changing patterns of disease and injury.
Publications	 These reports have been produced by project funded personnel to meet the objectives defined by the project: Franklin RC, Thomas, PR, Fragar LJ. 2004. The <i>Health and Safety of New South Wales Farmers, Farm Families and Farm Workers</i>. Australian Centre for Agricultural Health and Safety, Moree and Rural Industries Research and Development Corporation, Canberra.
	- Franklin RC, Thomas, PR, Fragar LJ. 2004. <i>Falls in Agriculture</i> . Australian Centre for Agricultural Health and Safety, Moree and Rural Industries Research and Development Corporation, Canberra.
	 Fragar L, Pollock, K. 2004. All-terrain Vehicle Injury on Australian Farms – Update 2004. Australian Centre for Agricultural Health and Safety. Farmsafe Australia website. www.farmsafe.org.au
	 Fragar L, Pollock, K. 2005. All-terrain Vehicle Injury on Australian Farms – Update 2005. Australian Centre for Agricultural Health and Safety. Farmsafe Australia website. www.farmsafe.org.au
	 Fragar, L. J., Stiller, L. and Thomas, P. 2005. Child Injury on Australian Farms – The facts No 5. 05/047, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation.
	 Fragar, L. J., Thomas, P. and Morton, C. 2005. Injury on New South Wales Farms- The facts No 7. 05/048, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation
	 Fragar, L. J. and Thomas, P. 2005. Machinery Injury on Australian Farms – The facts No 4. 05/050, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation
	- Fragar, L. J., Pollock, K. and Morton, C. 2005. Occupational Health and Safety Risk in the Australian Beef Cattle Industry - The facts No 1. 05/046, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation.

Fragar, L. J., Pollock, K. and Morton, C. 2005. Occupational Health and Safety Risk in the Australian Poultry Industry- The facts No 2, 05/052, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation. Fragar, L. J., Pollock, K. and Morton, C. 2005. Occupational Health and Safety Risk in the Australian Horticulture Industries-The facts No 3, 05/049, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation Fragar, L. J., Sankaran, B. and Thomas, P. 2005. Pesticides and Human Health in Australia - The facts No 6, 05/051, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation. Temperley J, Pollock K, Fragar L. 2006. Benchmarking farm health and safety for Australian agriculture – preliminary paper. Australian Centre for Agricultural Health and Safety Fragar, L. J., Pollock, K, Morton, C, Day L. 2006. Occupational Health and Safety Risk in the Australian Dairy Industry - The facts No 9. 05/046, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation (In press). Fragar, L. J., Pollock, K. and Morton, C. 2006. All-terrain vehicle injury on Australian farms - The facts No 8. 05/046, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation (In press). Morton, C, Fragar, L. J., Pollock, K. 2006. The safety of older farmers in Australia - The facts No 10, 05/046, Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation (In press). These reports have been produced by personnel in the Australian Centre for Agricultural Health and Safety with significant use of data held by the National Farm Injury Data Collection: Australian Centre for Agricultural Health and Safety. 2004, Safe Play Areas on Farms Resource Guide. Australian Centre for Agricultural Health and Safety, Moree. Fragar L, Sankaran B, Thomas P. 2004. Pesticides and human health — a report of health data related to pesticides in Australia. A report to the Australian Pesticides and Veterinary Medicines Authority. Australian Centre for Agricultural Health and Safety. Moree Athanasiov A, Fragar L, Gupta M. 2004. Farm Machinery Safety – Injuries associated with Grain augers in Australia. Australian Centre for Agricultural Health and Safety, Moree and Rural Industries Research and Development Corporation. Canberra Miller J, Fragar L, Franklin R. 2004. Farm Machinery Safety -Injuries associated with posthole diggers. Australian Centre for Agricultural Health and Safety, Moree and Rural Industries

Research and Development Corporation, Canberra.
 Miller J, Fragar L, Franklin R. 2004. Farm Machinery Safety – Injury involving tractor run-over. Australian Centre for Agricultural Health and Safety, Moree and Rural Industries Research and Development Corporation, Canberra.
- Athanasiov A, Gupta M, Hewitt RJ, Franklin RC, Fragar LJ. 2004 Farm machinery safety – Power take off shaft guards. Australian Centre for Agricultural Health and Safety, Moree and Rural Industries Research and Development Corporation, Canberra.
- Fragar L, Pollock K. 2006. Head injury On Australian Farms - Data for consideration of helmet requirements. A report produced for Standards Australia Helmet Standard Committee. Australian Centre for Agricultural Health and Safety. Moree.

Project Title	Testing and delivering media communication strategies for child farm safety
RIRDC Project No.: Researcher: Organisation: Phone: Fax: Email:	USA-14A Dr Lia Bryant and Ms Elizabeth Hoon University of South Australia School of Social Work and Social Policy St Bernards Road Magill SA 5072 (08) 8302 4363 (08) 8302 4377 Lia.Bryant@unisa.edu.au; Elizabeth.Hoon@unisa.edu.au
Objectives	 This study aimed to test the effectiveness of written, visual and audio communication strategies under the National Farmsafe Australia Child Farm Safety Strategy. Specifically, to identify: 1) Access to Farmsafe media resources 2) Use of Farmsafe media resources 3) Assessment of a selection of Farmsafe media tools 4) Strategies to improve effective delivery of current resources and their messages.
Background	The benefits of this independent in-depth study are the project's dual focus on state and national child farm safety representatives and farming community members who ground the research within local knowledge, experience and activities. For communication strategies to be effective they need to be constructed in association with those to whom they are applied (e.g. farm men, women and their children). The study identifies awareness and use of a sample of Farmsafe Australia's child farm safety communication strategies and evaluates these tools. There is little research which evaluates communication strategies associated with child farm safety.
Research	 There were three major components to sampling and data collection to evaluate CFS resources: 1) Telephone interviews with child farm safety officers/facilitators and community members with an interest in child farm safety issues. (N=18). 2) Focus groups with farm parents and grandparents, farming and community organisations and businesses, health care professionals and educators and local government (N=14, with an average of eight participants in each). 3) Focus groups with children and teenagers in rural based primary schools (aged between 7–9 and 10–12 years) and high schools (aged 13–15 and 15 to 17 yrs) (N=32).
Outcomes	 In line with the objectives, outcomes fall under the following categories: Access to Farmsafe Australia child farm safety media tools Use of CFS media tools, assessment of resources Improving CFS resources and their uptake. Some of the outcomes include: Individuals working in CFS and rural community members need greater exposure to the range of Farmsafe CFS resources.

	 This lack of awareness and therefore promotion of CFS resources in communities and among professionals is likely to be exacerbated by a lack of funding and infrastructure in most states and territories to promote and develop CFS initiatives. CFS resources most often utilised by adults working in CFS, health, education and/or farming parents and grandparents was the Child Safety on Farms Checklist and the Safe Play Area Brochure and Guide. Majority of community respondents from all states highlighted the need to distribute targeted resources to specific industries. Farmers are overloaded with mail; therefore to increase awareness and education it is suggested that farm parents and grandparents be targeted via regional radio.
	 Education and Youth—target youth in agricultural schools, traineeships and on stations. Education and Children—involve CFS resources in curriculum of kindergartens and schools (note school based resource has been developed by Farmsafe— <i>Ripper II Growing Kids on Farms</i>). Involve children in helping to instigate change using the resources and mediums most likely to be used by children—eg, cartoons and involving children and teenagers in developing own CFS media tools (see appendices for drawings). Co-ordinate and collaborate across and within states and territories
Implications	The findings provide specific recommendations for development of one tool, the poster and the necessity to brand all written Farmsafe Australia media tools. Implications for Farmsafe and educators involve collaboration regarding the curriculum and child farm safety messages. Further, a major implication derived from the findings is that Farmsafe CFS media tools require greater distribution and/or different mechanisms to deliver CFS messages to increase awareness of these tools by child farm safety workers and rural and farming communities. An additional implication to emerge from the findings for Farmsafe Australia and other child farm safety organizations is the necessity to develop resources which go beyond their current focus of 0-14 years to include teenagers. In light of the findings and current literature the question of whether this particular population would be responsive to confrontational style media also requires examination.
	a state level to increase inter and intra state co-ordination, and delivery of awareness and education regarding CFS.
Publications	The research teams are developing publications to be submitted to <i>Pediatrics</i> and <i>Journal of Agricultural Safety and Health</i> .

Project Title:	Cost analysis of the sustainable farm families program
RIRDC Project No.: Researcher: Organisation: Phone:	WDH-3A Susan Brumby Western District Health Service PO Box 283 Hamilton VIC 3300 (03) 5551 8460
Fax: Email:	(03) 5572 5371 susan.brumby@wdhs.net
Objectives	 To undertake a cost effectiveness analysis of the Sustainable Farming Families (SFF) program to provide an economic evaluation of the impact of the program. Provide an economic model that is able to be used to evaluate the program in industries such as sugar, dairy and cotton To communicate project finding to industry, health and other sectors To provide information on the economic effectiveness of SFF
Background	The general health of rural people is, by urban standards, very poor with rural and farming populations having above average rates of premature mortality and death through heart disease, cancer and suicide. It is in this context that the Sustainable Farm Families program has been working. The first three-year project is due for completion in November 2006. As SFF has continued it has become very clear that the program has been successful in changing attitudes and improving health outcomes, and the Steering group (industry-based) has indicated the need for an economic evaluation given the success of the project to date.
Research	Estimating the impact of an intervention on health via clinical parameters/ lifestyle behaviours is commonly applied in the economic evaluation literature and relies on the application of published risk equations derived from large-scale cohort studies. The majority of published risk equations link intermediate outcomes to cardiovascular disease (CVD) events and CVD mortality. The evaluation of the SFF program will use reported longitudinal clinical parameters of project participants, including cholesterol, BMI and blood pressure and apply them to the equations derived from over 5,000 men and women from the Framingham Health Study (Anderson et. al, 1991; Grundy et. al 1999). These will be used to calculate estimated life-years and quality-adjusted life years saved.
	In addition to these longer-term outcomes, the research will also generate cost-utility estimates on short-term (ie. over the life of the project) quality of life changes by using reported longitudinal data on lifestyle behaviours of participants, including, BMI, exercise and diet. Utility scores will be based on quality of life scores found in the literature, generated through multi-attribute utility survey instruments and time trade-off techniques (see, for example, Tengs and Wallace, 2000).

Outcomes	 The results of the research will be delivered in the form of: a user-friendly report an economic model that can be used to evaluate the program in other industries such as dairy, cotton or sugar.
Implications	The research will assist in determining how best to reduce the burden of harm attributable to the health-related behaviours of Australian farmers and families, thereby extending knowledge of the relative performance of interventions and informing resource allocation decisions to ensure the greatest contribution to health improvement possible given a limited budget.
Publications	Nil pending feedback from RIRDC.

RESEARCH IN PROGRESS

Farm Health and Safety

Project Title:	In-depth investigation of farm machinery injury
RIRDC project no: Start Date Finish Date Researcher Organisation	UMO-32A 01-Jul-03 30-Nov-06 Dr Lesley Day Monash University Accident Research Centre Building 70 Wellington Road Clayton VIC 3168
Phone:	(03) 9905 1811
Fax: Fmail:	(03) 9905 1809 Lesley Day@general.monash.edu.au
Lindin	• To identify machine factors associated with farm machinery
Objectives	injury, and to explore the interaction of machinery factors with human factors.
Current Progress	This project involves in-depth investigations of the safety features of specific agricultural machines involved in serious injury events, and comparison with similar equipment which has not been involved in such events. Human factor issues are also being examined. Injured farmers are being recruited through hospital emergency departments, and comparison farmers are being recruited by random telephone survey.
	As of May 2005, 23 injured farmers had agreed to a machinery inspection and 20 of these have been completed. Thirty-six comparison farmers had agreed to a machinery inspection and 15 of these have been completed. Recruitment of farmers is ongoing and the aim is to have completed 40 case inspections, and 80 comparison inspections by January 2006. The analysis will compare the features of machinery involved in injury, with the features of machinery not involved in injury to facilitate recommendations which would prevent, or reduce the severity of, serious injury.
	The project has collaborative links with a similar Canadian study, and the recruitment of farmers is being undertaken as part of another project with funding from the National Health and Medical Research Council.

Project Title:	Farm safety studies
RIRDC Project No.: Start Date: Finish Date: Researcher: Organisation: Phone: Fax: Email:	US-141A 15-Oct-2005 31-Jul-2007 Associate Professor Lyn Fragar Australian Centre for Agricultural Health and Safety (02) 6752 8210 (02) 6752 6639 Ifragar@health.usyd.edu.au
Objectives	 The objective of this project is to improve the ability of Australian Agriculture to manage risk of injury through the: provision of accurate, timely, concise and relevant data about injury occurring on farms or due to agricultural work establishment of a population of people who have agreed to participate in a five-year of enterprise OHS risk factors and personal health related to work and life in agricultural production.
Current Progress	Occupational health and safety is a major issue of concern and cost to Australian agriculture. Previous and current work of the Farm Injury Data Centre and of specific Commodity Reference Groups has established the key risk factors that are generic to most agricultural and horticultural enterprises and those that are specific to commodity production systems—tractor safety, farm machinery guarding, farm workshop safety, child safety, commodity programs, falls in older farmers. Little is documented about the perceptions of and attitudes to safety on farms or how the increasing body of information about farm OHS is received and used on farms, what impediments and costs are associated with uptake and the practical benefits that accrue from increased attention to safety.
	The project builds on the previous RIRDC-funded National Farm Injury Data Collection project which has been highly successful in providing the underpinning data for development of the Farmsafe Australia Programs as well as providing guidance for identification of appropriate strategies for the improvement of agricultural health and safety and in comparing the performance of industries. The project will establish, maintain and expand a longitudinal study of farm health and safety that will provide the most valuable research program for Australia into the future.
	 The output from this project will be published in reports and papers: Technical reports for publication and posting on the RIRDC website: Australian Farm Fatalities (July 2000 to December 2004) Farm Injury Optimal Dataset Occupational Health and Safety on farms in Australia Practical Guidelines publications Mental health and wellbeing and its impact on farms in Australia Published papers in peer-reviewed professional journals

- A Translation Plan to be developed in association with Farmsafe Australia to ensure that relevant findings are integrated with current OHS programs and rural health service plans that will include:
 - short reports in lay language for use in newsletters and websites
 - presentations at relevant conferences and industry forums
 - publication of the Sugar Cane package
 - report of perceptions, attitudes and behaviours of participants in longitudinal study
 - report on pathways to adoption of OHS on farms

These resources will be available for use by trainers and producers, and are available on the Farmsafe Australia website www.farmsafe.org.

Project Title:	Sustainable farm families: the human resource in the triple bottom line
RIRDC Project No.: Start Date: Finish Date: Researcher: Organisation:	WDH-1A 01-Jul-03 31-Jul-06 Ms Sue Brumby Western District Health Service- Community Services 2 Roberts Street HAMILTON VIC 3300
Phone: Fax: Email:	(03) 5551 8460 (03) 5572 5371 susan.brumby@wdhs.net
Objectives	 Identify and track farming family health indicators for inclusion in Farm Management quality assurance processes. Design and deliver a training program for farming families to identify strategies to enhance individual, family health and relevant OH&S practices. Communicate project findings to agricultural sectors. Provide information on the relationship between family health and health as a social issue in rural communities and farm productivity.
Current Progress	Currently the Sustainable Farm Families' (SFF) project continues to provide valid evidence-based research on the state of rural farming families throughout agricultural industries. The SFF project looking at the state of the broad acre industry has come to the end of its three-year research and current reports are in progress.
	128 farming family members were recruited to the project with a total of 105 completing the final year. Significant qualitative and quantitative data were collected revealing significant <i>health</i> and farm health and safety issues relating to the broad acre industry. Current trends in the data assessment include ongoing economic evaluation studies looking at the value of the program in relation to health and economic indicators. Other significant results include positive correlation between health education and statistically significant improvements in health indicators over three years.
	Western District Health Service and its collaborative partners are looking forward to producing the final report highlighting the significant findings related to this project.

Project Title:	Sustainable farming families—building and extending our future
RIRDC Project No.: Start Date: Finish Date: Researcher: Organisation: Phone: Fax:	WDH-2J 15-Oct-2005 31-Jul-2007 Ms Susan Brumby Western District Health Service PO Box 283 Hamilton VIC 3300 (03) 5551 8460 (02) 5572 5271
Email:	susan.brumby@wdhs.net
Objectives	• To expand the Sustainable Farming Families network into other agricultural industries by initiating training and development opportunities for rural health professionals working in other parts of Australia.
Current Progress	Currently the Sustainable Farm Families' (SFF) project continues to provide valid evidence-based research on the state of rural farming families throughout agricultural industries. Western District Health Service (WDHS) and its collaborative partners have endeavoured to value-add research funding provided by RIRDC and further assess the health status of Australia's agricultural industries.
	Additional funding from RIRDC saw the extension of the SFF project to encompass the sugar and cotton industries. To date we have completed the first of two years of research into the state of farm families' health in cotton populations in the Wee Waa and Dalby areas and research in the sugar industry regions of Ayr and Ingham.
	Current outcomes from all research conducted has revealed significant <i>health</i> and occupational health and safety issues and a considerable number industry specific concerns that will assist in future policy and management developments.
	WDHS looks forward to continuing this research and working with our collaborative partners to further assess the state of rural farming families' health and improve this through education, assessment and preventative care.